

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below:

1. (Currently Amended) A system for providing shape, surface features, or both, to a moldable material, comprising:

at least two first opposed flat endless upper and lower belts attached to a first set of rollers and spaced apart a first distance, each having an inner surface and an outer surface, wherein the outer surface of each of the upper and lower belts is supported by a rigid supporting surface;

at least two second opposed flat endless belts disposed substantially orthogonal to the first two opposed endless belts and spaced apart a second distance, each having an inner surface and an outer surface;

at least two endless opposing profile mold belts attached to a second set of rollers, each profile mold belt having an inner and an outer surface, each of the outer surfaces in partial contact with the inner surfaces of the first opposed flat endless belts;

a mold cavity defined at least in part by the ~~inner surfaces of the at least two first and second opposed flat endless belts~~ at least two endless opposing profile mold belts;
and

a drive mechanism for imparting motion to at least two of the opposed flat endless belts.

2. (Canceled).

3. (Canceled).

4. (Previously Presented) The system of claim 1, wherein the rigid supporting surface comprises a slider bed or platen.

5. (Currently Amended) The system of claim 1, wherein the outer surfaces of the first opposed flat endless upper and lower belts comprise[[s]] a coating of a friction reducing substance.

6. (Previously Presented) The system of claim 5, wherein the friction reducing substance comprises a fluoropolymer, or ultra-high molecular weight polyethylene.

7. (Previously Presented) The system of claim 1, further comprising an air-film lubrication system adapted to reduce friction between the at least two first or second opposed flat endless belts and the rigid supporting surface.

8. (Currently Amended) The system of claim 1, wherein the rigid supporting surface comprises a plurality of holes therein, in fluid communication with a plenum chamber located behind a slider bed or platen, and wherein the holes and plenum chamber are adapted to provide pressurized air film lubrication between at least one flat endless belt of the at least two first or ~~second~~-opposed flat endless belts and the rigid supporting surface.

9. (Original) The system of claim 1, wherein the first opposed endless belts or the second opposed endless belts, or both, are adjustable such that the first distance, or the second distance, or both, can be varied.

10. (Currently Amended) The system of claim [[2]] 1, wherein at least one of the profile mold belts comprises an elastomeric face layer adapted to contact the moldable material, and a reinforced backing layer adapted to contact the inner surface of a belt of the at least two first or second opposed flat endless belts.

11. (Currently Amended) The system of claim [[2]] 1, further comprising a plurality of a profile mold belt tensioners, adapted to maintain the profile mold belts in tension.

12. (Previously Presented) The system of claim 11, wherein at least one of the profile mold belt tensioners comprises one or more pulleys disposed such that the profile mold belt encloses at least a portion of the drive mechanism.

13. (Currently Amended) The system of claim [[2]] 1, wherein the at least two first opposed flat endless belts and the profile mold belts are oriented substantially horizontally, and wherein the at least two second opposed flat endless belts disposed substantially orthogonal to the at least two first opposed endless belts are disposed substantially vertically.

14. (Currently Amended) A method of continuously forming a moldable material to have a desired shape or surface feature or both, comprising:

introducing the moldable material into an end of a mold cavity formed at least in part by inner surfaces of two opposed profiled mold belts attached to a first set of rollers, the profile mold belts partially in contact with [[the]] inner surfaces of two substantially orthogonal sets of opposed flat belts, wherein the two substantially orthogonal sets of opposed flat belts which are supported by rigid supporting surfaces and are attached to a second set of rollers;

exerting pressure by the rigid supporting surfaces on the moldable material through the opposed flat belts;

transferring the moldable material along the mold cavity by driving the opposed flat belts by a drive mechanism to impart longitudinal movement of the belts;
after sufficient time for the material to cure or harden into the molded configuration and thereby form molded material, removing the molded material from the mold cavity.

15. (Canceled).

16. (Original) The method of claim 14, wherein the moldable material comprises a filled thermoset plastic.

17. (Original) The method of claim 14, wherein the moldable material comprises a foamed or foaming material.

18. (Currently Amended) The method of claim [[15]] 14, wherein the profile mold belts form the moldable material into a shape having a cross-section at least approximately corresponding to that of the mold cavity.

19. (Currently Amended) The method of claim [[15]] 14, wherein the profile mold belts impart a surface pattern to the moldable material.

20. (Original) The method of claim 14, wherein the molded material comprises a synthetic lumber, roofing tiles, molded trim profiles, or siding.

21. (Currently Amended) A forming apparatus for forming a moldable material, said apparatus comprising:

a first upper belt attached to a first set of rollers;

a second lower belt attached to a second set of rollers opposed to said first upper belt, said first and second upper and lower belts spaced apart a first distance, each of said first and second upper and lower belts comprising an inner surface and an outer surface, and wherein said outer surface of said first and second upper and lower belts are supported by first rigid supporting surfaces;

a third belt;

a fourth belt opposed to said third belt, said third and fourth belts spaced apart a second distance and disposed substantially orthogonal to said first and second belts, each of said third and fourth belts comprising an inner surface and an outer surface;

a first mold belt attached to a third set of rollers, wherein the first mold belt is least partially in contact with said first upper belt,

a second mold belt attached to a fourth set of rollers and opposed to the first mold belt, wherein the second mold belts is at least partially in contact with said second lower belt;

a mold cavity defined in part by the first and second mold belts said inner surfaces of said first, second, third, and fourth belts; and

a belt drive mechanism operationally coupled to at least two of said first, second, third, and fourth belts.

22. (Canceled).

23. (Canceled).

24. (Previously Presented) A forming apparatus in accordance with Claim 21 wherein each said first supporting surface comprises a friction reducing substance.

25. (Previously Presented) A forming apparatus in accordance with Claim 24 wherein said friction reducing substance comprises at least one of a fluoropolymer, and an ultra-high molecular weight polyethylene.

26. (Previously Presented) A forming apparatus in accordance with Claim 21 wherein said first rigid supporting surfaces comprise a plurality of air passage openings in fluid communication with a pressurized air source to provide a pressurized air film between said outer surface of said first and second belts and said first rigid supporting surfaces.

27. (Original) A forming apparatus in accordance with Claim 21 wherein at least one of said first, second, third, and fourth belts is adjustable so that at least one of said first distance and said second distance is variable.

28. (Currently Amended) A forming apparatus in accordance with Claim [[22]] 21 wherein each said mold belt comprises an elastomeric face layer for contacting the moldable material, and a reinforced backing layer for contacting said inner surface of said first or said second belt.

29. (Original) A forming apparatus in accordance with Claim 21 wherein said outer surface of said third and fourth belts is supported by second rigid supporting surfaces.

30. (Previously Presented) A forming apparatus in accordance with Claim 29 wherein each said second supporting surface comprises a friction reducing substance comprising at least one of a fluoropolymer, and an ultra-high molecular weight polyethylene.

31. (Previously Presented) A forming apparatus in accordance with Claim 29 wherein each said second rigid supporting surfaces comprise a plurality of air passage openings in fluid communication with a pressurized air source to provide a pressurized air film between said outer surface of said third and fourth belts and said second rigid supporting surfaces.

32. (Currently Amended) A continuous forming apparatus for forming a moldable material, said apparatus comprising:

a first pair of opposed upper and lower closed loop conveyors spaced apart a first distance, and each supported by a first rigid supporting surface and attached to a first set of rollers;

a second pair of opposed closed loop conveyors spaced apart a second distance and disposed substantially orthogonal to said first pair of conveyors, and each supported by a second rigid supporting surface;

a pair of opposed mold members attached to a second set of rollers and at least partially in contact with the first pair of opposed upper and lower closed loop conveyors,

a mold cavity defined in part by an area between said first and second pairs of conveyors ~~pair of opposed mold members;~~ and

a drive mechanism for imparting motion to at least one of the first or second pair of closed loop conveyors conveyors.

33. (Canceled).

34. (Canceled).

35. (Previously Presented) A continuous forming apparatus in accordance with Claim 32 wherein at least one of said first rigid supporting surfaces and said second rigid supporting surfaces comprises a friction reducing substance.

36. (Previously Presented) A continuous forming apparatus in accordance with Claim 35 wherein said friction reducing substance comprises at least one of a fluoropolymer, and an ultra-high molecular weight polyethylene.

37. (Previously Presented) A continuous forming apparatus in accordance with Claim 32 wherein at least one said first rigid supporting surfaces and said second supporting surfaces comprises a plurality of air passage openings in fluid communication with a pressurized air source to provide a pressurized air film between said first and said second pairs of conveyors and said first and said second rigid support surfaces.

38. (Currently Amended) A continuous forming apparatus in accordance with Claim [[33]] 32 wherein at least one of said first pair of conveyors and said second pair of conveyors are adjusted so that at least one of said first distance and said second distance is variable.

39. (Currently Amended) A continuous forming apparatus in accordance with Claim [[33]] 32 wherein each said mold member comprises an elastomeric face layer for contacting the moldable material.

40. (New) The system of Claim 1, wherein the first set of rollers are positioned internal in the system relative to the second set of rollers.

41. (New) The system of Claim 1, wherein the first set of rollers are positioned between the second set of rollers.

42. (New) The system of Claim 1, wherein the outer surfaces of the at least two endless opposing profile mold belts is partially not in contact with the inner surfaces of the first opposed flat endless belts.

43. (New) The system of Claim 1, wherein the at least two endless opposing profile mold belts are adapted to shape, or mold surface features, or both, into a moldable material.